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FIG. 1—MODENA, CATHEDRAL: ARCHIVOLT ON THE PORTA DELLA PESCHERIA (Photo. A. K. Porter)



FIG. 2—MODENA, CATHEDRAL: CENTRAL DETAIL OF THE ARCHIVOLT ON THE PORTA DELLA PESCHERIA (Photo. A. K. Porter)

Modena, Bari, and Hades

BY ROGER SHERMAN LOOMIS



IN the Porta della Pescheria of Modena cathedral there is an archivolt (Fig. 1)¹ depicting a scene from Arthurian legend which is the subject of considerable controversy, both as to date and as to the precise subject. We see in the centre a castle with a central tower, on which are suspended a spear and shield (Fig. 2). Within the castle are a man labeled Mardoc and a woman, Winlogée, both apparently in an agitated state. Around the castle is an expanse of water; there seem to be two entrances, and at the head of each stands a barbican. Before the left barbican a great ruffian, Burmaltus, swings his *baculum cornutum*, or *baston cornu*. Against him ride Artus de Bretania, Isdernus, and an unnamed knight. From the right barbican there sallies forth a knight Carrado, and against him ride Galvagus, Galvarium, and Che. It is easy to recognize in Artus, Isdernus, Galvagus, and Che the well-known Arthur, Ider, Gawain, and Kay of the romances. But the identity of the others has never been determined.

Foerster, who first brought this sculpture to the attention of Arthurian scholars in 1898,² and practically all the archæologists have assigned the carving to the early twelfth century.³ But recently two distinguished scholars of the Sorbonne have pronounced for a late date, M. Mâle for about 1160,⁴ and M. Faral for 1180 or even later.⁵ M. Faral has never demonstrated his competence in archæological matters, and since his dating is merely an attempt to square the facts with his erroneous theory of Arthurian origins, it may be dismissed. M. Mâle, although his contributions to archæology have made him deservedly illustrious, seems also to be the victim of bias. At any rate, he has given no reason for his dating except an attempt to show the dependence of the Modena façade sculptures on St. Denis.⁶ If anyone wishes, however, to be convinced of the early date of the Modena sculptures, let him turn to M. Mâle's own article. There he will see that the St. Denis king of 1140 is far more developed in style than the Modena figures.

Furthermore, that these sculptures were done between 1099 and 1106 rests upon very solid grounds. A reliable and almost contemporary document specifically mentions the carving of sculptures between the commencement of the work on Modena cathedral in 1099 and the consecration in 1106.⁷ Professor Porter has shown that the Modena sculptors seem to have studied the throne at San Niccolò, Bari, completed in 1098,⁸ and that the hand of Wiligelmus, master sculptor at Modena, is evident at Cremona in work begun in 1107.⁹ To these arguments I may add another. The armor worn by the Arthurian

¹For the photographs reproduced in this article I wish to express my indebtedness to Professor Arthur Kingsley Porter.

²*Zeitschrift für Romanische Philologie*, XXII, 243, 526.

³A. K. Porter, *Lombard Architecture*, I, 436; G. Bertoni, *Atlante Storico-Artistico del Duomo di Modena*, xviii; Venturi, *Storia dell' Arte Italiana*, III, 160, 164; G. von Vitzthum, *Malerei und Plastik des Mittelalters*, 80; M. Wackernagel, *Plastik des XI. und XII. Jahrhunderts in Apulien*, 119.

⁴*L'Art religieux au douzième siècle*, 269 n.

⁵Bédier and Hazard, *Histoire illustrée de la littérature française* (1923), 18.

⁶*Gazette des beaux arts*, 1918, 55.

⁷Bertoni, *Atlante Storico-Paleografico del Duomo di Modena*, 88.

⁸*Romanesque Sculpture of the Pilgrimage Roads*, I, 66.

⁹*Lombard Architecture*, II, 386 f.

knights at Modena corresponds very closely to that depicted in the *Bible of Stephen Harding* illuminated at Citeaux in 1109.¹ In both we have the same type of hauberk and the same pennon attached to the lance. There is a difference in the helmets, proving that the Modena sculpture is the earlier. Of the six helmets represented at Modena five are of a pure conical type, giving the outline of an isosceles triangle, whereas only one, that of Che, shows a marked curve in the back. In the Citeaux MS. of 1109 the proportion of helmets with curved outlines is much higher. After 1109 the pure conical helmet, as long in front as in back, goes out of fashion. At any rate, I have yet to discover a single instance of the purely conical helmet after 1109.²

The dating of the Modena sculpture between 1099 and 1106 fits in perfectly with the Bari connection, discovered and fully treated by Professor Porter.³ For San Niccola, begun in 1087, must have been far advanced to accommodate a papal council in 1098. To the evidence of both architectural and sculptural influences proceeding from Bari to Modena let me add a note. The resemblance between the archivolt of the Porta dei Leoni at Bari (Figs. 3 and 4) and that of the Porta della Pescheria at Modena has often been pointed out. In both we see a central stronghold attacked from both sides by galloping knights. It is certain that the Bari subject is not the same as that at Modena, for the water surrounding the castle and the man and woman in it, which we shall see are essential features of the Modena scene, are absent at Bari. Nevertheless, the composition is so similar as to make the theory of influence almost certain. Mr. Porter in his monumental *Romanesque Sculpture of the Pilgrimage Roads* suggested hesitantly that the Bari sculpture was the later and that therefore, contrary to his general theory, Modena in this instance influenced Bari.⁴ I feel convinced, however, that his general theory holds good here also. The priority of the Bari archivolt is established by two features. The knights have no nasals to protect their faces, such as we see on the Modena relief and were generally used throughout the twelfth century. More conclusive is the fact, so far not observed, that the one knight at Bari who has adjusted his lance to the encounter, is not carrying it hugged under his armpit, but is balancing it above his shoulder. Now this latter method is that found on the Bayeux Embroidery of about 1070. M. Levé has shown in connection with that embroidery that there was a change in the manipulation of the lance toward the end of the century; Modena shows the later method.⁵ The inference to be drawn is that the Bari archivolt was studied by Wiligelmus or his assistant and furnished him with a decorative scheme which he used at Modena a few years later.

A more startling confirmation of the link between these two art centres I discovered last December. I noted that the Arthurian names carved on the Modena relief were closer to the Breton than the Welsh forms and it occurred to me that the sculptor might have picked up the story from some Breton embarking from Bari on the First Crusade. It was a case of fishing for a minnow and catching a whale. There was not one Breton Crusader: there were probably a hundred. They did not stay a few days: they spent four months of the winter of 1096-7 at Bari. Alan Fergant, Duke of Brittany, Conan de Lamballe, Alan, steward of Archbishop Baldric of Dol, Ralph de Gael, and Riou de Loheac, besides other Breton lords, formed part of the contingent of Robert Curthose, Duke of

¹P. Clemen, *Romanische Monumentalmalereien in den Rheinlanden*, 164; A. Michel, *Histoire de l'art*, II, 299.

²I discuss this matter more fully in an article entitled "The Date, Source, and Subject of the Arthurian Sculpture at Modena" contributed to the forthcoming *Medieval Studies Dedicated to the Memory of Gertrude Schoepperle Loomis*.

³See above, p. 71, note 8; also *Art Studies*, I, 12ff.

⁴I, 63-66.

⁵*Bulletin monumental*, 1913, 130.



FIG. 3—BARI, SAN NICCOLÒ: DETAIL OF THE ARCHIVOLT ON THE PORTA DEI LEONI (Photo. A. K. Porter)



FIG. 4—BARI, SAN NICCOLÒ: DETAIL OF THE ARCHIVOLT ON THE PORTA DEI LEONI (Photo. A. K. Porter)



Normandy.¹ Of Robert, William of Malmesbury said unsympathetically that "pecuniam infinitam mimorum et nebulonum sinibus ingessit," "he poured uncounted riches into the laps of minstrels and good-for-nothings."² Very probably among those into whose laps fell the largess of Duke Robert was the professional story-teller who made such an impression on the imagination of Wiligelmus or his assistant. Unquestionably the Breton minstrels spoke in French both for their own lords and for the group of Normans with whom they were in continual contact. Thus they could have stirred the generosity of Duke Robert and at the same time stimulated the imagination of the sculptor Wiligelmus, whose name suggests by its form that he also was a Norman,³ and who at any rate lived in a town which had been ruled by Normans for sixteen years. During the four months that the Bretons spent at Bari, the sculptors who later were to work at Modena must have had more than one opportunity of listening to long tales of Arthur and his knights.

What was the particular story which Wiligelmus or his assistant found so enthralling that he represented it in stone the first chance he had? Though the sculpture has been known to Arthurian scholars for twenty-six years and though two partially correct interpretations have been given, the central theme, the clue which gives meaning to the whole, has never been suggested. The difficulty has lain in the identification of the two figures in the castle—Winlogée and Mardoc. Though the names occurred in Arthurian romance as Guenloie and Malduc, no one was able to associate these names with any situation corresponding to that on the sculpture. In the last year I began to note several facts which finally led to the solution of the mystery. I found that Ider, who in the romance of *Yder*⁴ is represented as the lover of Guenloie, is elsewhere said to be a lover of Guinevere.⁵ The same romance, while it makes the hero the lover of a queen named Guenloie, actually preserves clear traces of a tender relation between the hero and Queen Guinevere.⁶ I noted, too, that the form Winlogée found its closest parallel in a Breton female name Winlowen or Wenlowen. Now in the *De Ortu Walwani* Arthur's queen is actually called Gwendolœna.⁷ I became convinced at last that the lady of the Modena portal was Guinevere herself.

Now any Arthurian scholar, seeing Guinevere imprisoned in a fortress surrounded by waters and approached by two entrances, with Arthur and Gawain coming to the rescue, would not need to be told anything more. He would know that we have in this scene an early representation of the abduction of Guinevere by a person who goes under various names, of which the best known are Melwas, Meleagant, or, in Malory's *Morte Darthur*, Mellyagraunce. This legend with a hundred variations runs right through the Gawain and Lancelot cycles, not to mention the independent romances. By consulting these versions of the episode it is possible to reconstruct rather fully the story that was told over the wine in that Apulian port over eight hundred years ago. Indeed it is the first Arthurian romance. Crestien de Troyes's *Erec*, usually accorded that title, was not composed till seventy years later. Even Geoffrey of Monmouth's *History of the Kings of Britain*, which contains the first extended account of Arthur that has come down in MS., is forty years later in date. The only Arthurian story which can challenge the priority of the abduction of Guinevere as represented at Modena is the Welsh *Kulhwch*

¹C. W. David, *Robert Curthose*, 97.

²*Comptes rendus de l'Académie des Inscriptions*, 1890, 208.

³A. K. Porter, *Romanesque Sculpture*, I, 67.

⁴H. Gelzer, *Der altfranzösische Yderroman*.

⁵*Ibid.*, lvi.

⁶*Ibid.*, lvi, lvii.

⁷Edited J. D. Bruce, 85 f.

and *Olwen*. This, curiously enough, contains an allusion to the very Alan Fergant, Duke of Brittany, in whose train we may safely place the teller of the other story. But whether *Kulhwch and Olwen* belongs to the late eleventh or the early twelfth century seems likely to remain uncertain. The tale told at Bari is probably earlier.

In outline this earliest Arthurian romance would run as follows:¹ One first of May Winlogee, the Queen, went out into the meadows to gather flowers. Her only escort was Idern, and he was unarmed. Suddenly out of the woods rode a giant knight, Carrado. He seized the queen, flung her upon his horse, and when Idern attempted to interfere, easily struck him down. Off he rode to a castle among wide marshes, which was accessible only by two perilous bridges. Entering, he gave over the queen to the lord of the castle, an enchanter named Mardoc. Meanwhile Idern had given the alarm to Artus and his knights, and they had started out in pursuit, Idern not waiting to put on a hauberk. Arrived at the edge of the marshes, the knights discovered the two bridges. One was essayed by Artus and Idern, but they were held at the entrance by the gigantic ruffian Burmalt, with his brandished *baston cornu*. The other bridge was undertaken by Galvagin, the greatest of Artus's knights, his brother Galvariun, and Che. Galvagin, attempting to cross, met the huge Carrado. Spurring against each other, they encountered with a crash. Galvagin unhorsed and slew Carrado. He entered the enchanted castle of Mardoc, overcame all difficulties, and rescued Winlogee. Just what happened to Mardoc is hard to say. Some versions let him off easily; others exact the death penalty, and I must give him the benefit of the doubt.

Now there is much more in this legend than at first appears. Mardoc's name is a corruption of Medrot, who in the romances appears as Mordrec or Modred. Under this guise also he abducts Guinevere, but, as all know, according to these versions, Arthur does not win her back but falls by Modred's sword. It is no wonder that he should do so, for Modred is no ordinary being. He is known in Irish legend as Mider, lord of the Underworld, the Celtic Hades. Again, in many forms of Arthurian romance, the abductor of Guinevere is called, as I have mentioned above, Melwas, Meleagant, or Mellyagraunce, all of which forms go back to the Welsh *Mael-vas*, meaning Prince of Death.² The land to which Guinevere is brought is spoken of in more than one version as the land from which no stranger returns. We see, then, that the story told by the Breton minstrel at Bari in 1096-7 and carved at Modena a few years later is a euhemerized version of a myth relating how, like Proserpina, Guinevere was carried off by the lord of Hades, how, like Orpheus, her husband set forth to bring her back, and how, like Hercules in the *Alcestis* legend, Gawain successfully struggled with Death and brought Guinevere back to her husband.

These knights whom we see carved on the Modena archivolt in armor and equipment reproduce the appearance of Bohemund and Tancred and Godfrey de Bouillon, the champions of the First Crusade; in name they are the Arthur, Gawain, and Kay familiar to us in Malory and Tennyson; but in their fundamental significance, they personify the faith that the soul of a great and beautiful woman may, in some fashion, be won back from the land of the shades.

¹This reconstruction is based mainly on *Durmart le Gallois*, II, 4187-4540, and the *Prose Lancelot*, found in the *Vulgate Version of the Arthurian Romances*, ed. H. O. Sommer, IV, 87-137.

²*Romania*, XXIV, 328. For discussions of the abduction of a queen by a king of the Other World in Celtic literature and the romances see *Romania*, XII, 459 ff; G. Schoepperle, *Tristan and Isolt*, II, 417 ff, 528 ff. The original parts of this paragraph I intend to develop more fully in an article to be published in *Modern Philology*, August, 1924.



1—NEANDRIA, IONIC-AEOLIC CAP., *Durm.* 2—MEGARA-HYBLEA, COR. ANTA-CAP., *Durm.* 3—PHIGALIA, COCKERELL'S RECONSTRUCTION, *Durm.* 4—BOGHAZKOI, RELIEF, *Durm.* 5—PHIGALIA, STACKELBERG'S RECONSTRUCTION, *Durm.* 6—PHIGALIA, SOLE EXTANT FRAGMENT, *Durm.* 7—ATHENS, ACROPOLIS MUSEUM, ARCHAIC CAP., *Durm.* 8—NAUCRATIS, TEMPLE OF APOLLO, *Anderson and Spiers.* 9—THEBES, EGYPTIAN CAP., *Durm.* 10—THEBES, EGYPTIAN CAP., *Durm.* 11—DELPHI, TREASURY OF MASSILIA, *Dinsmoor.*

The Origin of the Corinthian Capital

By H. L. EBELING

The only member of the Corinthian column that differentiates it from the Ionic column is the capital, which may be regarded primarily as a special example among the numerous variations of the volute capital.¹ Ferd. Noack,² emphasizing the continuity of Greek art, regards the Corinthian capital, like the Ionic, as a development out of the old Aeolic capital and illustrates his view by describing how, he thinks, the anta capital from Megara Hyblea (Fig. 2) developed from the Aeolic type (Fig. 1).³ His description of the process of development consists of beautiful imagery.

Frederick Poulsen⁴ refers to Noack and then proceeds to give a rather drastic description of the development as follows: "The earlier palmette-crowned capital of the anta (*i. e.*, earlier than the Phigalian capital) was the point of departure for the actual Corinthian capital, as the fundamental form shows; this takes up the leafage and stalks of the new plant (*i. e.*, acanthus) alongside of palmettes and spirals, and the next process was to remove the leaf-carved capital from the anta and transfer it to the shaft of the Ionic column."

The usual explanation of the origin goes outside the Ionic field, for it is based on the bell-shaped core, which had its prototype in Egypt and is regarded as the most characteristic feature by Durm,⁵ who cites as examples Figs. 9 and 10.⁶ Recently Professor Dinsmoor⁷ has suggested that the basket capitals found at Delphi could be regarded as the direct ancestors of the Corinthian capital (*cf.* Fig. 11). However much the existence of such models may have influenced the inventor of the new type of capital—and some influence is likely enough—they were only auxiliary factors.

M. Meurer⁸ and Th. Homolle,⁹ in their turn, lay the emphasis on the acanthus decoration. The latter demonstrates how the acanthus decorations on funeral stelæ, made first with the natural plant, then with artificial imitations, passed into architectural decoration. Among Homolle's illustrations we find Figs. 12 and 13;¹⁰ among Meurer's illustrations, Figs. 14 and 15.¹¹ The examples that Homolle and Meurer cite illustrate the inclusion of the acanthus in the ancient and widely used decoration, variously composed of palmette and spirals, and throw light on the adaptation of this combination for the adornment of the Phigalian capital. It may be that the included acanthus suggested

¹*Cf.* J. Durm, *Die Baukunst der Griechen*, pp. 297-327.

²*Die Baukunst des Altertums*, pp. 49 ff.

³Noack says (p. 51): "Nach diesem Beispiel ist es nicht mehr schwer die vier ursprünglichen Flächenbilder am korinthischen Kapitell sich durch einen analogen Process aus demselben Urbilde entstanden zu denken."

⁴*Delphi*, 1920, p. 251.

⁵*Op. cit.*, p. 343.

⁶*Op. cit.*, p. 346.

⁷*American Journal of Archaeology*, XXVII, 1923, p. 173.

⁸*Jahrb. des kaiserlichen deutsch. arch. Inst.*, XI, 1896: *Das Akanthusornament und seine natürlichen Vorbilder*.

⁹*Revue Archéologique*, 1916: *L'Origine du Chapiteau Corinthien*.

¹⁰*Op. cit.*, pp. 26, 47.

¹¹*Op. cit.*, pp. 131, 135.

further imitation in shaping the other leaves that adorned this capital; but, as we shall see, it must have been only a modest beginning of acanthus imitation, which became so important at a later date. But Meurer also fancies analogies between the acanthus growth and the acanthus capital (Epidaurus example), and Homolle does the same in greater detail, operating with the Epidaurus example and with Cockerell's reconstruction of the Phigalian capital, which, as we shall see, is not to be trusted. Homolle, further, utilizes the Corinthian story,¹ which tells how an acanthus plant had grown about a basket covered with a tile, suggesting to the ingenious Callimachus the new type of capital. Homolle discusses this story in an instructive way by connecting it with Corinthian bronze work and with Callimachus, who was famous for his metal work and for his invention of the drill, by means of which the delicate carving of marble was made possible. But, as we shall see, the leafage of the Phigalian capital was very different from that of the Epidaurus type and probably did not require a drill, although Cockerell was charmed with the delicacy of its carving. Moreover, it is improbable that Ictinus, the reputed architect of the Apollo temple at Bassae, who exhibited remarkable ingenuity in designing the novelties of the building, should have called in some one else to design the new type of capital for him. Besides, certain characteristics seem to be common to this capital and the novel Ionic capitals which Ictinus designed for this temple. It seems more likely that Callimachus, at a comparatively late date, received the credit of inventing the original Corinthian capital from the part he took in improving the acanthus decoration.

In all these attempts to explain the origin of the Corinthian capital little or no heed has been paid to the Phigalian example, which is generally accepted as the original invention and would therefore be the normal basis of any explanation. Our first need, then, is to obtain as correct a conception of the character of the Phigalian capital as the available sources of our knowledge permit. These sources consist mainly of original sketches and two reconstructions, made by two of the archaeologists who had made sketches of the original, which unfortunately was already in a damaged state. These have been discussed by Margarete Gütschow,² who was able to test the accuracy of the drawings in some particulars with the aid of fragments of the capital. The capital itself had disappeared not many years after its discovery in 1811, but fragments were discovered by Kavvadias two decades ago³ and have been published by Rhomaïos.⁴ The sketches were made by O. M. von Stackelberg, Th. Allason, C. R. Cockerell, and Carl Haller von Hallerstein. The work of the last named is admittedly the most accurate but has not been published, and as his drawings are mostly in Strassburg, and some of them in England, Miss Gütschow had to rely on tracings that her teacher, Ferd. Noack, placed at her disposal. These were made only from sketches of details and do not include Haller's picture of the whole capital.⁵

Cockerell had the use of sketches made by Haller when he prepared his magnificent publication, the standard for which had probably been set by Stackelberg's earlier publication, for Cockerell's Plate X shows a neatly arranged interior view of the temple in which the Corinthian capital is seen placed on the drum of a Doric column (Fig. 29) just as Stackelberg's Plate III shows⁶ a neatly arranged interior in which this capital appears

¹Cf. Vitruvius, IV, 1.

²*Jahrb. des deutsch. arch. Inst.*, XXXVI, 1921, pp. 44-60.

³Cf. C. R. du Congrès d'Athènes, 1905, pp. 174 ff.

⁴*Arch. Eph.*, 1914, pp. 59 ff.

⁵Cf. Gütschow, *op. cit.*, p. 53.

⁶According to Gütschow, *op. cit.*, p. 48.

"lying" on the drum of a column. Cockerell's publication did not appear until 1860, many years after he had seen the original. It contains his sketch of the capital and also a reconstruction, in which, as he says, he has made some "adjustments." This reconstruction appears in most of the histories of Greek architecture (Fig. 22).¹ Cockerell's sketch agrees fairly well with Haller's details; but his reconstruction, with its "adjustments," shows several points of dissimilarity.² Stackelberg published his sumptuous work in 1826, fourteen years after he had visited the temple. This also contains a reconstruction; but the author admits that it was "*eine nur nach einem flüchtigen Entwurf versuchte Ergänzung*" (Fig. 31). Neither of these reconstructions can be accepted as authoritative where they differ from the sketches made by Allason and Haller, or from Cockerell's own sketch. Allason's sketch (Fig. 24) was published in 1830 by Donaldson.³ It was made during a brief visit at Bassae. Miss Gütschow⁴ says of it: "*Allason stimmt in den wenigen Hauptformen, die er gibt, mit Haller überein.*" This is not quite so, as he has missed one revolution in the spirals, so that we may question his accuracy in representing below the corners of the abacus only two tall leaves, one overlapping the other. The sketch is valuable, however, in presenting a view from below, which shows the curve of the abacus and the fact that a piece had been broken from the bottom of the capital. Cockerell's sketch (Fig. 23), more authoritative than his reconstruction, affords the best basis of our study; but it must be supplemented and controlled by Haller's sketches of the separate parts (Cockerell himself sketched a few details on a larger scale). One defect in Cockerell's sketch is the straight-looking abacus.⁵ But this appearance cannot have been intentional, for alongside of his reconstruction, in which, also, the abacus shows straight sides, he has placed a cross section with four concave sides (Fig. 25). These curves are clearly shown in Allason's sketch and also in Stackelberg's reconstruction, the correctness of which is established by fragments of the abacus.⁶ Traces of the broken-off volutes are shown in these same fragments, which prove that in Cockerell's sketch they are correctly placed under the corners of the abacus, free from the core of the capital.

The massive abacus, with its concave sides, and the volutes supporting the corners deserve especial notice, as they indicate a relation of the Corinthian capital to the Ionic diagonal capital. This was a device invented to provide a corner capital where two rows of columns with Ionic capitals, meeting at right angles, would clash—a defect of the Ionic order, which was especially felt in Doric surroundings.⁷ However, the diagonal did not satisfy the Greeks. The beauty of the straight Ionic bolster face is diminished by the inward curve of the diagonal, and the volutes thinning out at the corners become less appropriate as supports, and being more or less independent of the bolster do not appear to function properly, as they might if placed between an adequate abacus and an echinus. So far as this is the case in regular Ionic capitals, volutes lend an appearance of elastic

¹Miss Gütschow, *op. cit.*, pp. 51, 2, says of it: "*Durm hat diese 'im Vertrauen auf Stackelbergs gute Empfehlung' in sein Handbuch der gr. Arch. 1909 (3), Abb. 331 aufgenommen. Aus diesem ist sie in andere Handbücher übergegangen.*"

²Miss Gütschow, *op. cit.*, p. 54, says: "*Jedoch für die Abänderungen bei seiner Rekonstruktion—die 'adjustments,' die er sich beim Radieren der Platte erlaubte—bieten Hallers Blätter keinen Anhalt, weder für die Form der Eckvoluten und die über ihnen eingeschobenen Blättchen, noch für die 'Lanzenspitzen,' noch für die starke Lappung und Fädelung der Blätter.*"

³Supplement to Stuart and Revett, *Antiquities of Athens and Other Places in Greece*.

⁴*Op. cit.*, p. 54.

⁵Miss Gütschow, *op. cit.*, p. 51, says of it: "*Abacus . . . nicht geschwungen sondern eben und steil.*"

⁶*Cf. Gütschow, op. cit.*, p. 57.

⁷In Springer-Michaelis, 1904, p. 295, it is stated: "*Das 'Diagonalkapitel' tritt im Osten nur vereinzelt auf, öfter im Westen (sog. Grab Therons bei Akragas, in Verbindung mit dorischem Gebälk, regelmässig in Pompeji).*"

strength; but the lack of functional appropriateness of volutes appears even in examples of the regular bolster capital, where they extend beyond the echinus, as in the capital of the old Artemisium at Ephesus.¹

Hence, further experiments seemed desirable, and it is interesting that the Phigalian temple (see the cover design of this magazine), so remarkable for its novelties, shows two. The engaged columns of the open court are crowned with Ionic diagonal capitals, although diagonals were not needed here; but as a diagonal capital suggests the omitted section of an engaged column better than the oblong bolster capital, this fact may have determined Ictinus' choice. Further, they were given the massive appearance of the Doric capital by arching their tops, which, moreover, brought the volutes under pressure, thus doubly increasing the appearance of strength. Unfortunately, only a fragment of one of these capitals is preserved (now in the British Museum (Fig. 6)), and we have to depend, here again, on sketches (Figs. 3 and 5). These are in essential agreement, except that Cockerell has added a conjectural abacus.² They are without the spiral-palmette decoration that is sometimes added.³ Now it is interesting that Ictinus revived an old type of capital, as can be seen in the relief at Boghazkoï (Fig. 4).⁴ However, the Phigalian capitals followed the horizontal bolster type, whereas the Boghazkoï relief shows the principle of the Aeolic type of capital, in which the volutes spring from the shaft, or neck, of the column, where they have their support (Fig. 1). Here was a useful suggestion for his second experiment, when Ictinus undertook to design a capital for a solitary column that was to be placed at the southern end of the open court, at the entrance to the cella, in view of the temple statue. It was to be an ornamental column of marble, and the location demanded an all-round view. We have the result before us: a bell-shaped core, surmounted by a massive abacus with four concave sides, under the corners of which, according to indications, there were pairs of volutes, the stems of which are visible on the core, which is ornamented with huge spirals and leaves, some of them merely painted.

In an attempt to trace the steps by which Ictinus developed the design of this new type of capital we shall begin by expressing the conviction that he desired to keep it in harmony with his diagonal capitals. This obvious supposition relegates the structurally important core to second place in the development of his design. Durm⁵ regards the bell-shaped body as the most striking characteristic of the Corinthian capital, and so it is when compared with the Doric and Ionic capitals, and yet when we regard the Corinthian capital, we are impressed by abacus, volutes, spirals, and, especially, leaves, behind which the core is hardly noticeable. The fully developed capital is often spoken of as the "acanthus capital." We may assume then that some form of diagonal capital, with four front views, would be Ictinus' first thought. He had already experimented with the diagonal type and shown his desire to give an appearance of strength by increasing the height of this capital and by making the volutes suggest greater carrying power. This purpose is again conspicuous in his choice of an abacus, possibly under Doric influence, that was much more prominent than the Ionic abacus, and with the volutes under the corners. That these members were influenced by the diagonal type is shown by the concave sides of the abacus and the pairs of volutes joined from contiguous sides. We may

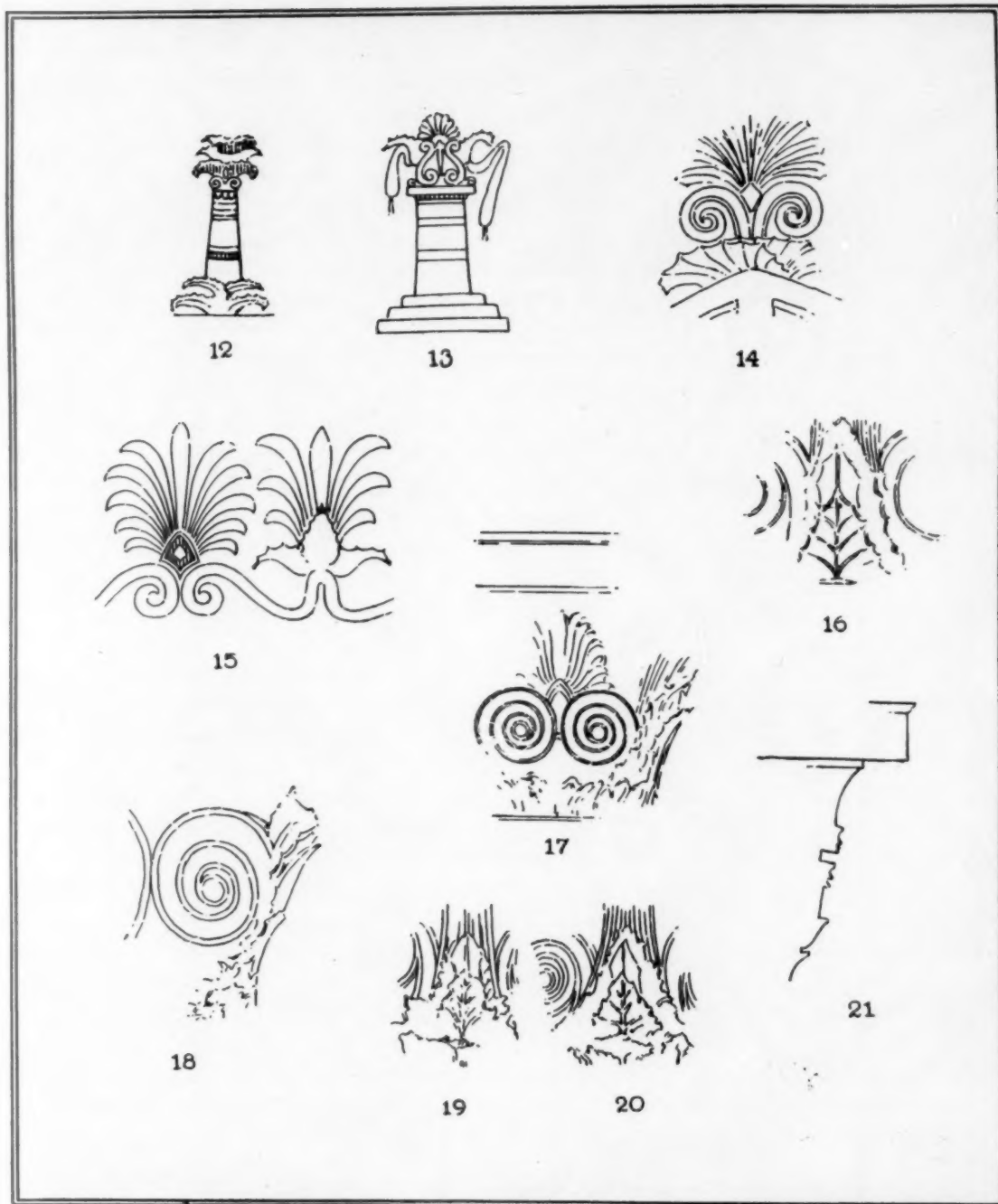
¹Cf. Durm, *op. cit.*, p. 303.

²Cf. *ibid.*, p. 301.

³Cf. Springer-Michaelis, 1904, p. 116.

⁴Durm, *op. cit.*, p. 297.

⁵*Op. cit.*, p. 343.



12—MUNICH, VASE PAINTING, *Homolle*. 13—LOUVRE, VASE PAINTING, *Homolle*. 14—CONSTANTINOPLE, ACROTERION ON A SARCOPHAGUS, *Meurer*. 15—OLYMPIA, PAINTED SIMA, *Meurer*. 16, 17, 18—PHIGALIA, HALLER'S DETAILS OF COR. CAP., *Gütschow*. 19, 20—PHIGALIA, COCKERELL'S DETAILS OF COR. CAP. *Gütschow*. 21—PHIGALIA, HALLER'S PROFILE OF COR. CAP., *Gütschow*.



imagine Ictinus making a sketch in which the upper section of the diagonal was replaced by an abacus that preserved the curves of the diagonal, and in spreading this enlarged abacus above the lower section it projected over the volutes, reduced in size. Having thus practically eliminated the bolster, he had to devise a substitute and secure support for his volutes. At this juncture his familiarity with the Aeolic type of capital showed him that volutes could be made to spring from a leaf-encircled neck. But for the shape and limits of the core of his capital he had to seek elsewhere for models. We may well believe that the existing bell-shaped capitals of Egypt and Delphi occurred to him (Figs. 9, 10, and 11). At the same time it seems worth while to consider whether Ionic capitals could have pointed the way to the adoption of a suitable form, bearing in mind the tendency to increase their appearance of height by adding ornamental necks.¹ Indeed a bell-shaped capital might have been suggested by examples like the Naucratis capital (Fig. 8) and the one in the Acropolis Museum at Athens (Fig. 7), not to speak of illustrations that Durm cites under the head of Doric capitals.²

At any rate, having adopted the bell-shape for his capital, Ictinus again showed his desire to keep his capital in harmony with the volute style of capital by adopting the above mentioned spiral-acanthus-palmette decoration, in which the huge spirals, with their convolutions, remind one of the volute faces of his diagonal capitals. They look like contiguous diagonal volutes spread flat. This composite decoration, from its fixed pattern and the arrangement which brings the spirals into relation with the volutes, must have been sketched in first, and that on four sides, and so determined the choice of the leafage that was to fill the spaces left vacant. Was there then enough space under the spirals for two distinct circles of leaves? Cockerell's reconstruction shows two (Fig. 22); the sketches of Allason, Haller, and Cockerell himself show only one.³ No doubt Haller himself encouraged Cockerell in the belief that there were two girdles of leaves, for his profile sketch (Fig. 21)⁴ adds a section below the line that limits the capital as he saw it, suggesting a second girdle of leaves. Both were probably influenced by the later Corinthian capital, and, as Allason's sketch shows, the lower part of the capital was fractured, so that they had some ground for their conjecture. However, if there had existed a second girdle, it is incredible that this should have entirely disappeared by an even horizontal fracture. In Allason's sketch the fracture appears irregular; hence a fragment of a second girdle of leaves, if it had existed, would have been visible. Accordingly, we may feel assured that the Phigalian capital had only one girdle of leaves. The character of the leaves is not clear.⁵ Stackelberg states positively that they were not acanthus. That an examination of Haller's sketches in England and those that have been added to the collection in Strassburg from Athens⁶ may reveal some resemblance to the acanthus is possible; but the leaves of the girdle were so crowded that they must have presented a very different appearance from the clearly defined acanthus that was adopted later. The form that Cockerell pictured in his reconstruction is merely conjectural and not in agreement with his own and Haller's sketches, which moreover show that the leaves of the Phigalian capital

¹Cf. the Ionic capital at Locri, Durm, *op. cit.*, p. 307.

²*Op. cit.*, p. 255.

³Miss Gütschow, *op. cit.*, p. 55, discusses this question and concludes: "In keinem Fall aber lässt sich aus den Handzeichnungen, ebensowenig wie aus Stackelbergs und Allasons Wiedergaben ein zweiter unterer Kranz beweisen."

⁴Cf. *ibid.*, pl. opposite page 52, no. 2.

⁵Miss Gütschow, *op. cit.*, p. 55, says: "Was die Blätter anbetrifft, so zeigen Hallers Skizzen sie mit so zerstörten Umrissen, dass man von ihren Einzelformen wenig genug erkennen kann, und daher ist es schwer zu entscheiden welcher Art sie waren—Akanthus oder 'Wasserlaub'?"

⁶Cf. *ibid.*, p. 55.

were not imitations of the leaves of the Egyptian nor of the Aeolic capitals. A nearer parallel may be seen in the Doric capital at Paestum.¹

The spaces under the volute corners called for taller leaves. But instead of imitating the Egyptian capital (Fig. 10), on which broad leaves narrow up to the rim of the bell, where they curl into small volutes, Ictinus let broad-based leaves rise only to the top level of the spirals, so that they should not be called "*Stützblätter der Eckvoluten*,"² which term applies to these leaves as developed in the later capitals (cf. Figs. 16-20). They partly cover the stems of the spirals and volutes, with which they have no pronounced organic connection; nor was there a leaflet between volute and abacus. There seem to be three of these leaves, one overlapping the other (Figs. 16-20; cf. Egyptian capital above, Fig. 9). Miss Gütschow would more readily have recognized the third leaf if she had thought of the final application of paint adding the leaf details to the spear point which puzzled her, especially in Cockerell's sketch (Figs. 19 and 20).³ This crowding of leaves again shows that there was no direct imitation of the natural acanthus plant. If there was any resemblance, it must have been of a conventional character as shown on the cornice of the north door of the Erechtheum.⁴ Besides all this leafage there were painted above the spirals on either side of the palmette tall narrow leaves that resemble those of the iris. Both Stackelberg and Haller include them in their drawings and mention them in their notes. Haller remarks "*peint encaustique*" and represents them as in Fig. 30. The projecting points at the side of the slender leaves indicate a shorter leaf clinging to a taller one, as can be frequently seen in the growing iris. As the other leaves could not readily be made to cover these spaces, we can understand the choice of the tall iris-like leaves, which were painted so as to appear in the background. All these details give to the Phigalian capital an unorganic, experimental appearance,⁵ which strengthens our belief that this capital (Fig. 28) initiated the Corinthian order. But the Greeks recognized the defects of its decoration, and a century later we see emerge the beautiful capital from Epidaurus (Fig. 27). Here, instead of the composite decoration, consisting of huge spirals, acanthus, and palmette, we have small graceful spirals and an unobtrusive rosette; and instead of a profusion of various kinds of leaves, we have only acanthus leaves of unmistakable character, which are artistically arranged without crowding. Even if a further examination of Haller's sketches should prove that the acanthus had been represented more or less clearly on the Phigalian capital, it will remain evident that another creative genius, possibly Callimachus, was needed to reveal by skillful carving the still latent beauties of the acanthus plant. When this had come to be recognized it must have created a stir among Greek architects. The one who designed the Lysicrates monument seems to have been carried away with enthusiasm for this means of decoration (Fig. 26). In contrast with the intricate profusion of leaves exhibited here, the Epidaurus capital displays a beautiful and practical simplicity, which was again the creation of a genius, who, in avoiding the extravagance exhibited in the Lysicrates monument, established the

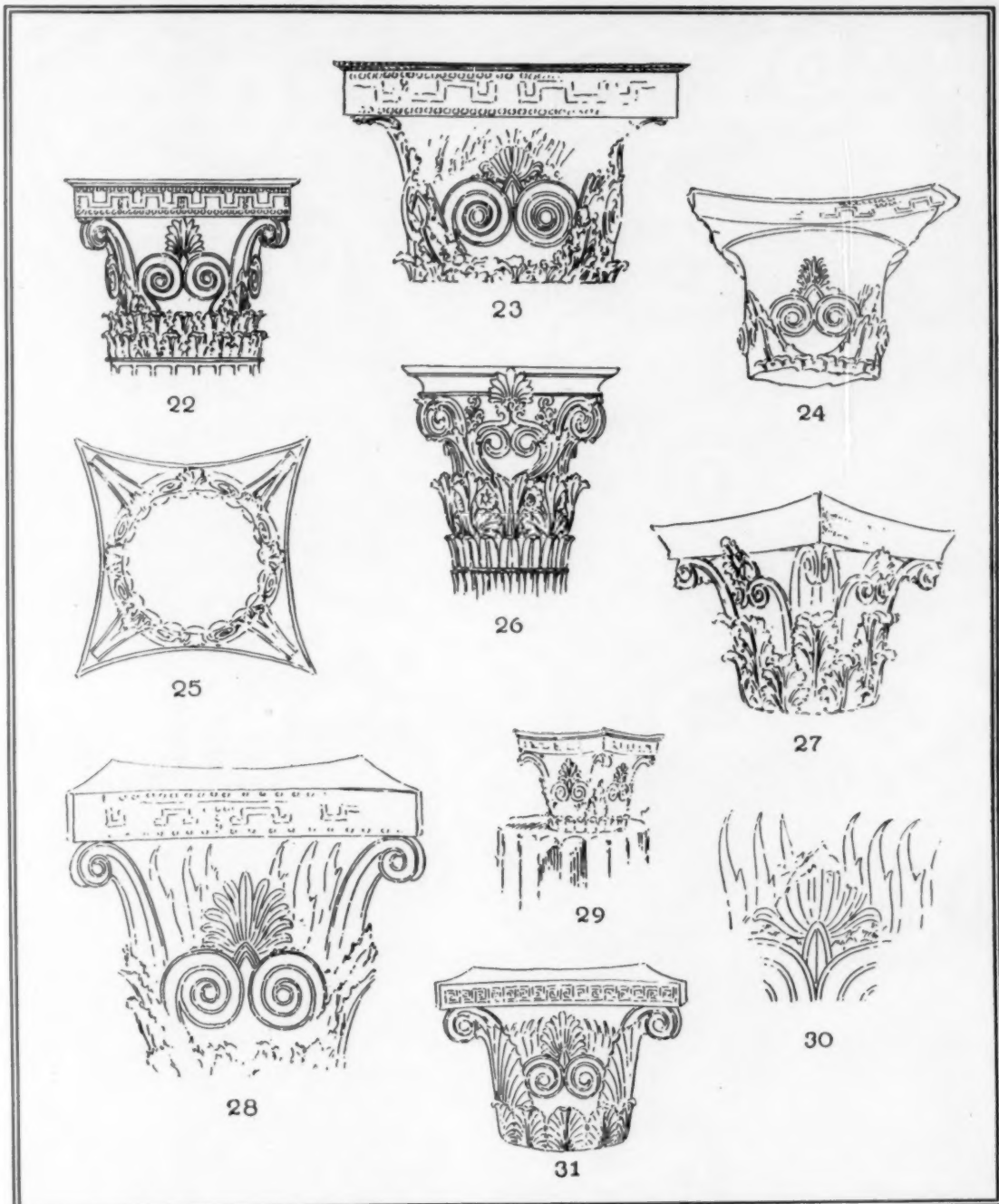
¹Cf. Durm, *op. cit.*, p. 252.

²Gütschow, *op. cit.*, p. 56.

³Cf. *ibid.*, p. 54, n. 7.

⁴Cf. *ibid.*, pp. 49, 56.

⁵Miss Gütschow, *op. cit.*, p. 56, summarizes her impression of the Phigalian capital in the following words: "Alle diese Einzelheiten erscheinen in ihrer Zusammensetzung unorganisch. Der plumpe Kalathos, das Missverhältnis zwischen dem schüchternen Blattkranz und der kolossalen Spirale, deren Steifheit so schlecht zum Schmuck des gerundeten und sich leise wölbenden Kalathos passt, der leere Raum über den Spiralen, den Malerei ausfüllen musste, der ungegliederte Abacus, das alles gibt den Eindruck eines ersten Versuchs."



22—PHIGALIA, COCKERELL'S RECONSTRUCTION, *Durm.* 23—PHIGALIA, COCKERELL'S SKETCH OF COR. CAP., *Gütschow.* 24—PHIGALIA, ALLASON'S SKETCH, *Gütschow.* 25—PHIGALIA, CROSS SECTION OF COR. CAP., *Cockerell.* 26—ATHENS, LYSICRATES MONUMENT, *Bühlmann.* 27—EPIDAUROS, THOLOS, *Springer-Michaelis.* 28—PHIGALIA, RECONSTRUCTION OF COR. CAP., BASED ON EVIDENCE CITED. 29—PHIGALIA, COR. CAP., *Cockerell.* 30—PHIGALIA, HALLER'S DETAIL, *Gütschow.* 31—PHIGALIA, STACKELBERG'S RECONSTRUCTION OF COR. CAP., *Gütschow.*

standard type of the Corinthian capital. Probably other examples had been produced during the interval of the century that separates the Phigalian capital from these two. The lost capital that Scopas designed for the temple at Tegea must have shown improvements, not to speak of the part that Callimachus may have played. In arranging these three capitals in their chronological sequence, the second place would belong to the Lysicrates capital, as the retention of the palmette, the crowding of leaves, and the addition of a girdle of leaves at the bottom seem to reflect the Phigalian capital.

Medallion Carpets

By M. S. DIMAND

Our knowledge of the history of carpets and their ornaments is still, in spite of many important studies, insufficient. Especially in the dating of early carpets is there a diversity of opinions. In the following investigation I shall discuss the style and chronology of some medallion carpets belonging to the Metropolitan Museum of Art. The center of each of these carpets has either a single panel, of varying form, or, in addition to such a panel, attached cartouches and shield-shaped figures.

The carpet in Fig. 1¹ is ornamented with a sixteen-pointed star in the center of which is a smaller one with eight points. Both are covered with stems and flowers on a pale blue and red ground. The main field is decorated with interlaced arabesques and floral scrolls on a salmon ground. The border has the same type of ornament on a green ground.

The carpet in Fig. 2² has in the center a white medallion with an eight-pointed blue star. The points of this star end in palmette forms. Above and below the medallion is a tan cartouche, to which is attached a blue shield outlined with spirals derived from Chinese cloud motives. In each corner of the central field of the carpet is repeated a part of a star form similar to that of the first carpet. The ornament of the fields consists of stems, leaves, and flowers of varying sizes and colors. The rose-colored main field is covered with interlaced arabesques and floral scrolls. The border has interlaced broad bands and palmettes.

In both of these carpets the arabesques of the main fields form circular spirals and end in palmettes of modified shapes,³ recalling the Chinese cloud motive, "tshi," the sign of immortality. Other common elements are the palmette medallions, formed by two palmettes—wing palmettes—and the pattern of the inner guard stripes. Many floral motives, also, are similar in the two carpets.

In spite of these likenesses there is a great difference in style. The outlines of the medallion in the first carpet are strong and angular; in the second they are made up of lobed and curved lines. The flowers of the first carpet are small, with decorative treatment; those of the second are larger and more naturalistic, some having lively serrated outlines. The coloration of the second carpet is richer than that of the first one.

The center of the carpet in Fig. 3⁴ is occupied by a lobed square medallion. On either side of the medallion is attached a cartouche adjoining a heart-shaped field. The medallion is decorated with angular stems and blue, red, and yellow flowers on a red and green ground. The remaining space of the carpet is covered with a constantly repeated floral and geometrical pattern. The border has blue and white bands with palmettes and lotus flowers on a red ground.

¹19 ft., 2 in. by 7 ft., 10 in. Acc. no. 22.100.75. Breck-Morris, *The Ballard Collection of Oriental Rugs*, 1923, no. 1. Called Persian, late 15th cent.

²23 ft., 2 in. by 8 ft., 10 in. Acc. no. 14.40.718, B. Altman coll.

³Breck-Morris, *op. cit.*, p. 3.

⁴17 ft., 5 in. by 8 ft., 7 in. Acc. no. 22.100.74. Breck-Morris, *op. cit.*, no. 3. Called Persian or Armenian, late 16th or 17th cent.

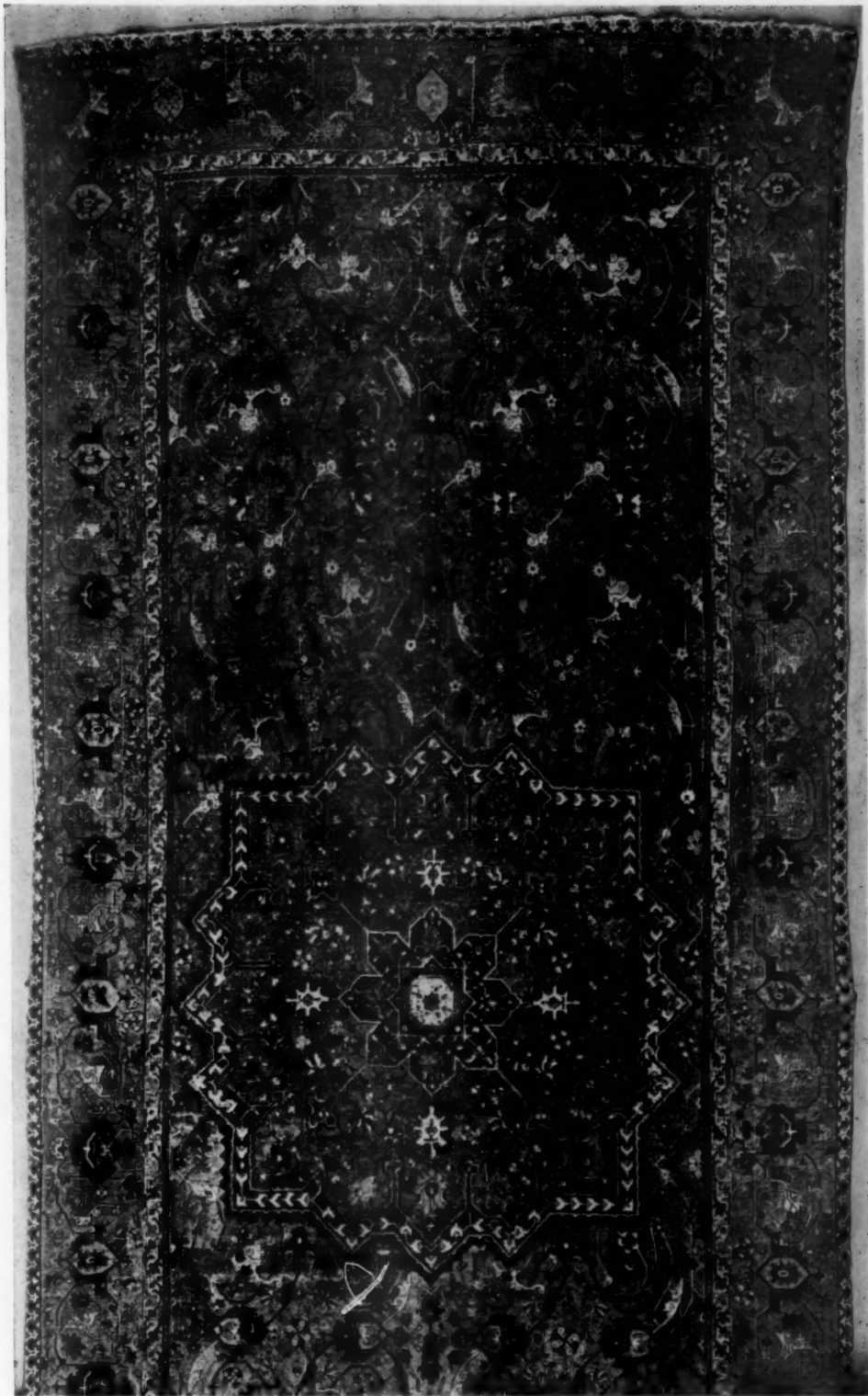


FIG. 1—NEW YORK, METROPOLITAN MUSEUM: CARPET FROM NORTHERN PERSIA



FIG. 2—NEW YORK, METROPOLITAN MUSEUM: CARPET FROM NORTHERN PERSIA



It is possible to determine the chronology of these carpets with the help of dated Persian carpets and manuscripts. Although only few carpets are dated, there are many manuscripts of which the dates are known. They show us the development of Persian ornament from the purely geometrical style to the naturalistic. The appearance of the latter in the decoration of the Near East was a result of growing Mongolian and Chinese influence. In the fourteenth century such Chinese motives as dragons, phoenixes, and lotus flowers played an important rôle in the decoration of ceramics and textiles of the Near East.¹ The Chinese cloud pattern, "tshi," appears in the Persian-Mongolian miniatures of the end of the thirteenth century, and naturalistic ornament is seen in costumes and tents in the fourteenth-century miniatures.² Only gradually did the Chinese cloud motives and flowers mingle with the traditional geometrical forms of Arabic art. During the first half of the fifteenth century arabesques and palmettes still show the Arabic form. In the second half of this century the Chinese form of palmettes, as seen in our carpets (Figs. 1 and 2), appear for the first time in miniatures.³ Other characteristics of this later period are the light colors, which appear also in the carpet of Fig. 1.

The miniatures from Herat illuminated by Behzad or his pupils are of great value for the dating of carpets. A new era of Persian ornamentation begins with Behzad. The carpets which he represents are of two types. The first is geometrical, with octagon diapers, interlaces, and cufic forms. The second is characterized by floral designs.⁴ This floral ornamentation reflects the influence of naturalistic elements in the decoration of Chinese vases and textiles which were spread over Persia and Asia Minor at this time. Behzad was also the first to represent medallion carpets in his miniatures. The medallions have either angular outlines,⁵ as in the carpet shown in Fig. 1, or, more often, lobed outlines, as in Fig. 2. In general disposition of ornament the design of these miniatures resembles that of Figs. 1 and 2. The arabesques are interlaced with floral scrolls as noted in some details of our carpets.⁶ But in the Herat miniatures of the end of the fifteenth century the floral and geometrical ornaments are separated. The first appear in the medallions, as in Figs. 1 and 2; the second are used in the main field.⁷ Among the decorative motives are rosettes, various star flowers, palmettes of Chinese style, and interlaced bands similar to those of the border in Fig. 2. The real Chinese cloud bands, in worm shape,⁸ are not yet used. They occur first in Ispahan miniatures of the beginning of the sixteenth century.⁹ Introduced at Tabriz, they became a characteristic feature of nearly all the carpets in the Sefavi period (1502-1736).

At the beginning of the Sefavi period traditional design, such as we see in the carpets first discussed, still prevailed. Some miniatures in manuscripts dated 1520 and 1523,¹⁰ with their arabesques and flowers, recall the ornament in our second carpet (Fig. 2). Among the circular arabesques of this carpet there appear a few naturalistic flowers. Some of these, seen in the cartouche field, are new types, unknown in pure Persian decoration.

¹Falke, *Kunstgeschichte der Seidenweberei*, II, fig. 334.

²Martin, *The Miniature Painting of Persia, India, and Turkey*, Pls. 43-47.

³Schulz, *Die persisch-islam. Miniaturmalerei*, Pls. 119, 120, from a MS. dated 1463.

⁴Martin, *op. cit.*, Pl. 60, from a MS. dated 1467.

⁵*Ibid.*, Pl. 77, from a MS. dated 1485.

⁶*Ibid.*, Pls. 70, 72, 73, 76, from MSS. dated 1488 and 1494.

⁷*Ibid.*, Pls. 75-78, from a MS. dated 1485.

⁸Breck-Morris, *op. cit.*, p. 5.

⁹Martin, *op. cit.*, Pl. 119, from a MS. dated 1507-1527.

¹⁰*Ibid.*, fig. 27, Pl. 246.

The year 1520, in which the Sefavi dynasty conquered Khurasan, was of great importance for the Tabriz schools. Behzad and other artists from Herat were brought to the West, and with them came artistic ideas from the East. Chinese floral motives were known before but were less naturalistically treated. After 1520 other floral motives, which seem to be of Indian origin, began to appear. The most striking features of these flowers are the serrated outlines and the rich, realistic coloring. The artistic tendency of India was always toward an exaggeration of natural forms; and at the time of Behzad Indian carpets were doubtless known in Persia. These new floral motives, as well as the Chinese cloud bands, are more and more frequently used and finally supersede the arabesques, which are now less conventionally executed than those in the carpets of Figs. 1 and 2. The best example of this style is the Ardebil carpet, dated 1540, at the Victoria and Albert Museum.¹ The remarkable ornament of this carpet consists of very finely executed floral scrolls and flowers, completely corresponding with those of some miniatures dated 1537 and 1539-1543.² Of the same period as the Ardebil carpet is one in the Ballard collection of the Metropolitan Museum.³

Comparing the carpet in Fig. 2 with the Ardebil carpet, it is quite evident that the former must be dated earlier than 1540, probably in the period between 1500 and 1530. The more geometrical and conventional forms of the first carpet (Fig. 1) induce us to assign it to the second half of the fifteenth century, to about 1480. Between these two carpets is to be placed a fragment of a medallion carpet in the Ballard collection.⁴ The floral motives of this carpet are early in style; even the cloud bands, which form medallions in the cartouche field, are more in the style of the end of the fifteenth century.

The medallion, the border, and some of the motives in the carpet of Fig. 3 occur in Persian carpets. Other elements, such as the angular stems and the combination of the floral motives with geometrical figures, are unknown in Persian art but are characteristic of the carpets of Asia Minor. Also, the method of decorating with repeated conventional flowers, the black-brown ground, and the blue and yellow flowers appear in the Ushak and Armenian carpets. Other elements which point to Asia Minor are the Ghiordes technique and the cross motives formed of four parts like lilies. These cross motives, which appear in the medallion of the third carpet (Fig. 3), occur also in the first carpet (Fig. 1), as well as in some others which belong to the group of carpets represented by Fig. 2.⁵ They are derived from the old carpets of Asia Minor.⁶ Northern Persia and Asia Minor early exchanged decorative motives. Angularly treated Persian motives were adopted in Asia Minor, and some formal Armenian motives appeared sporadically in Persia. To the latter class belong some of the large rosettes with a kind of cross in the center. Since we find these decorative elements from Asia Minor in our first two carpets (Figs. 1 and 2), we may assume that they were made in Northern Persia, probably at Tabriz, and were influenced by the Herat school. The carpet shown in Fig. 3 must come from Asia Minor and must date from the end of the sixteenth or beginning of the seventeenth century, to which period the majority of carpets from Asia Minor can be assigned.

¹Kendrick, *Guide to the Collection of Carpets* (Victoria and Albert Museum), Pl. I.

²Martin, *op. cit.*, Pls. 122-129, 132-137.

³Breck-Morris, *op. cit.*, Pl. 5.

⁴2 ft., 4 in. by 3 ft., 2½ in. Acc. no. 22.100.67. Breck-Morris, *op. cit.*, no. 2. Called Persian, about 1500.

⁵Martin, *A History of Oriental Carpets*, Pl. II.

⁶*Ibid.*, Pl. XXX.



FIG. 3—NEW YORK, METROPOLITAN MUSEUM: CARPET FROM ASIA MINOR



REVIEWS

PAINTER AND SPACE OR THE THIRD DIMENSION IN GRAPHIC ART. BY HOWARD RUSSELL BUTLER. NEW YORK, SCRIBNER, APRIL, 1923.

VISION AND THE TECHNIQUE OF ART. BY A. AMES, JR., C. A. PROCTOR, AND BLANCHE AMES. 47 PP. PROCEEDINGS OF THE AMERICAN ACADEMY OF ARTS AND SCIENCES, VOL. 58, NO. 1, FEB., 1923.

In *Painter and Space* is traced the history of man's attempts to produce in drawings and paintings the appearance of solidity, distance, atmosphere, and light. The initial step in the long development was the drawing of outlines. This was followed by the production of the silhouette, the rendering of the space within the outline in a flat tone different from that of the background, illustrated by Greek and Etruscan vases and affording great opportunities for decorative effects. But as yet, though there was some indication of relative distance of different parts, all was flat. By some happy chance shading was discovered and the rendering of rotundity made possible, also "for the first time light entered the picture" (p. 14). It is interestingly suggested that this discovery gave rise to the first serious conflict in art circles and with it the first art critic appeared upon the scene. "We now come to another and equally interesting subject—the cast shadow. . . . The effect of this is to throw the figure forward, to imply depth to the background, and to introduce more light and air into the picture" (p. 15).

The next technical element to enter graphic art was geometric perspective, which, we are told, was probably understood by the Greeks but later lost to Christian art. As Christianity became the religion of Europe, its ascetic character gave way to the pomp and splendor of Byzantine and Roman influences, and its graphic art, principally mosaic, was designed for richness of decorative effect rather than for realistic portrayal. Then followed a long decadence until the beginning of the eleventh century, to be followed by four centuries during which there was an ever increasing output of pictures, now generally classified as "primitives." "Only to a limited degree could they produce the effect of a third dimension. . . . There was a continuing struggle to increase the effect of space and especially to solve the problems of geometric perspective" (p. 22). This was especially true, we are told, of the thirteenth and fourteenth centuries, during which pictures having more than one horizon were painted. One of these, the Holy Family by Van der Weyden, is analyzed (Fig. 9) and shows no less than six different horizons. The mastering of geometric perspective, in the time of Squarcione, is regarded by our author as marking the line between primitive and modern painting.

Geometric perspective is monocular, that is, it gives the effect of distance as seen by a single eye, when, moreover, that eye is capable of clear vision and sharp focus on both near objects and distant ones at the same time, and when the atmosphere is perfectly clear. Hence, though geometric perspective is fundamental it requires some important modifications to accord with actual vision. As far as these rest on the optical characteristics of the eyes they are discussed under the heading Binocular Perspective and lead to these conclusions. Verticals in planes other than the plane of focus tend to disappear; horizontals retain their strength better but tend to blur. Areas out of focus tend to become unified both as to shade and color, and details not in the principal plane lose their

importance. Binocular perspective was introduced gradually in the course of a century beginning toward the close of the Renaissance, but in the opinion of our author the matter has not yet been exhausted. "The use of binocular perspective in painting has never, to my knowledge, been scientifically worked out" (p. 40). "The future is yet to see a true school of binocular perspective—a school which will surely have its day" (p. 63). These statements are especially interesting in view of the investigations of Prof. Ames and his coworkers in this very field.

Chapter VI of *Painter and Space* is devoted to color, especially value scales, which play so important a part in "atmospheric perspective" (Chapter VII), the next step in the conquest of the third dimension. The necessity for correct values in painting was fully appreciated only about the middle of the last century, and these values contribute, our author concludes, to produce the effects of distance, air, and light, and above all they render color effective. Painting with correct rendering of values, known as the plein-air method, grew into a flourishing school by 1880 with tendencies, however, to convention in composition, loss of vitality in color, and the use of too dark keys. Then in 1889 came impressionism, under the leadership of Claude Monet, whose innovation consisted in placing side by side small areas of different colors, which at a distance would blend into a single resultant possessing more vitality than could be obtained by the mixture of pigments. Beside calling attention to the need of purer color and the advantage of higher value keys for luminous subjects, "it remained for the impressionists to give that wonderful attribute of light—its vibratory effect" (p. 126). Impressionism is, however, not without its darker side since composition, drawing, and correct values have all suffered, and it is usual to make the spots of color so large that one must go back from four to ten times the focal distance to have them blend, thereby making the geometric perspective incorrect (p. 128).

This brings us to the end of the story since the author concludes after reviewing Post Impressionism and Modernistics that they do not contribute to securing greater effect of space in painting. *Painter and Space* is, we believe, an important contribution to the history of painting from a new point of view. It should prove of especial value to painters on this account and for the many practical directions to be drawn both from the historical parts of the text and from the chapters treating of A Short-hand Method of Sketching and Painting the Solar Eclipse of June 8, 1918. The text is clearly written and the illustrations well selected.

The investigation, *Vision and the Technique of Art*, is directed, first, to ascertaining the peculiar characteristics of retinal pictures, and, second, to interpreting those characteristics in terms of paint on canvas. The greater part of the discussion relates to retinal pictures using one eye only. If an eye is directed towards and focussed on a small white object the image is as clear as possible but by no means perfect. The yellow component of the white light is brought to a sharp focus on the retina while red and, in greater degree, blue are spread out into a blur or fringe. This is clearly shown by photographs taken, with appropriate filters, through a lens having the optical properties of the lens of the eye, a method which is employed throughout the investigation, comparison also being made with photographs taken through a corrected lens.

This defect, chromatic aberration, is small if the object is on the line of sight and in focus, but it is sufficiently large to be seen by a careful observer when the object, though on the line of sight, is not in focus. Our authors find that near objects are fringed with red and distant ones with blue. It is suggested that this is a means by which a single eye is

capable of judging distance and that in painting, near objects should be rendered with red edges and distant ones with blue. Some paintings by Millet are said to exhibit this method, and by its use a marked effect of depth was obtained by Mrs. Ames.

When an object lies at some distance from the line of sight, the character of its picture on the retina is dependent not alone on its distance from the observer but also on the directions of its edges, our authors find. Thus a radial edge (*i. e.*, directed toward the center of the field of view) when nearer than the focal distance will be softened and have a colored fringe, while a tangential edge (*i. e.*, at right angles to the radial) will be sharper and more distinct. When the object is beyond the focal distance the reverse is true. "In paintings made by Mrs. Oakes Ames in which objects on the sides of the pictures were depicted with these characteristics a marked sense of depth is given by the objects taking their proper relative distances. The accentuating of tangential and radial lines in their proper planes is found in many paintings, especially those of Turner, in whose work it is apparent in the accentuation of tangential lines inside the focus and of radial lines on and behind the object plane of the scene he is painting" (p. 26).

Next, "barrel distortion," said to be the most easily noticed peculiarity of vision, is discussed. It causes straight lines which do not pass through the center of the field of view to appear to be bowed outward, and objects away from the line of vision to seem relatively smaller than those near it. This distortion has been observed in the Last Supper of Leonardo da Vinci, several works by Rembrandt, Israels, and Turner, The Greenwood by Inness, and in the paintings of other artists of the past. Among the works of living artists thus far examined by Professor Ames it has been found only in The Peace Conference by Orpen.

Observations were made on the color sensitiveness of the eye, showing, in agreement with Abney, that blue appears much more saturated on the periphery of the retina than on the fovea. Since chromatic aberration is caused principally by the blue rays, reduction of sensitiveness to these on the fovea is conducive to sharper vision in the center of the field of view. We are told that shadows imaged on the side of the retina seem more blue than when looked at directly, but artists usually make all shadows of out-door subjects blue, since "it was probably found that pictures look better with blue shadows all over them than without any blue shadows at all" (p. 34). Some of Corot's pictures show slightly brighter, warmer centers.

Lastly there is a brief consideration of binocular vision, leading to the conclusion that its effects on painting are: first, the broadening of everything in the horizontal direction; second, the lessening of value contrasts toward the edges of the picture; third, the doubling of images of objects not at the convergence point. This is in substantial agreement with Mr. Butler.

We have yet to consider the method which, our authors maintain, should form the basis of representing actuality in painting. Three methods are contrasted. "First, a reproduction of actuality can be attempted. By this is meant as close a reproduction as possible of all the objects in the scene in every measurement and detail. . . . In the pictorial arts it has been most closely approximated by photographs taken with a corrected lens. . . . The same result is accomplished in painting and drawing in which the artist depicts every part of the scene as it appears to him while looking directly at it" (p. 38). This method is generally admitted to be unsatisfactory. The second method consists in placing on canvas an enlarged replica of the picture which a scene before one makes on the retina, or, more exactly, a composite of the pictures made on the

two retinas. "Such depicting of nature can be approximated photographically by means of a lens which produces the same characteristic imaging as the lens system of the eye, and a plate whose sensitivity over its various parts is similar to that of the retina" (p. 39). It is important to note that this class of picture is to be viewed by directing the eyes successively to all parts of it, not keeping them fixed and focussed on the center of interest. A picture of the third kind is so painted that when one stands at the proper distance from it and fixes the eyes on its center of interest and holds them there, the pictures on the retinas are like the retinal pictures which the actual scene itself would produce. This class of picture should be painted free from distortion and increase of blue from the center outward, for the eye will supply both these visual peculiarities. In the respects just mentioned the technique of painting in this third manner is simpler than the second but in other ways is more difficult and seems not to have been tried. Although Prof. Ames says "it is questioned whether such a picture would be satisfactory" (p. 41), the underlying principle has much to recommend it.

Prof. Ames and his coworkers are developing the second method of painting, in support of which they urge "the use by so many of the great painters of characteristics of the retinal picture which is the strongest evidence of the artistic value of pictures of this type" (p. 39), and their superiority to pictures like photographs taken through corrected lenses, *i. e.*, by the first method. Also, "the purpose of the great artist is to make others see nature as he sees it. . . . He has to put into his picture nature's impression on himself, the beauty and truth he sees. . . . The purpose of art is to awaken subjective associative processes in those who look at it. . . . The natural way to cause us to recall our mental visual images or start a train of them in motion is to present to us a picture similar to them. When we look at a picture of this type we recognize that it is an attempt to reproduce not actuality but our impression of actuality" (p. 40). Admitting the force of the reasons given as against the first method of painting, it is not evident to the reviewer that they show clearly the superiority of the second as compared with the third method, leaving difficulties of execution, already mentioned, aside.

It is perhaps too early to express an opinion on the value of the investigation to art or on the way in which its findings may best be employed. We have long felt that one of the things most necessary to the advancement of art in the United States is a body of trained workers capable of clear and logical thought to formulate the underlying problems of art creation and then attack them experimentally. *Vision and the Technique of Art* is a serious attempt to study an important problem, and the method of painting indicated should be tested by further trial at the hands of artists. To this end it might be well were the method presented in more elementary form and with greater detail as to just how to proceed, with some indications of the widths of colored fringes, the amounts of distortions, etc. There is some danger of the method being discredited if visual peculiarities are overemphasized.

Edwin M. Blake

66 ETCHINGS BY MEMBERS OF THE PRINT SOCIETY. EDITED BY E. HESKETH HUBBARD, WITH INTRODUCTION BY KINETON PARKES. 4TO. BREAMORE, HANTS, THE ENGLISH PRINT SOCIETY, 1923. 21 SHILLINGS.

This is the second of the English Print Society's publications. The first is *On Making and Collecting Etchings*, and both have the very definite and altogether laudable purpose of interesting the average man in prints. If these volumes could only reach the average man, they would succeed. Tastefully and beautifully bound, printed in large

type on heavy paper with ample spaces and margins, the *66 Etchings* is a book any man would love to possess and fondle for his mere delight in a well bound and printed book, and one, too, which he would love to peruse in the quiet of his evening study for his pleasure in well written paragraphs. And then if he be not already a collector of prints—or even though he be one—there are the sixty-six full-page reproductions of etchings, drypoints, and aquatints, with seven reproductions of woodcuts and lithographs, making seventy-three in all, to lead him into the world of art. For, as the writer of the introduction so aptly remarks, prints can give the man with the average pocketbook a pleasure which no other forms of art can give. He can collect or possess prints, numbers of them, original works of art, sometimes by the great masters, while he would feel it possible to own but a very few fine oil paintings or statues, if any at all.

Strangely, to most people the making of prints is a mystery; their nature and qualities are equally unknown. Cognizant of this, Mr. Parkes, in his introduction, explains and describes them in a most delightfully interesting and simple way. His own appreciation of prints is so joyous that we envy it and covet it for ourselves until, before we know, we too are collectors, eager to learn how to mount, preserve, and exhibit prints of our own—all of which we are very carefully told how to do.

As for the illustrations, it takes but little knowledge of prints to convince one that the members of the Print Society here represented (and let it be known they are not all Englishmen) show a thoroughly trained knowledge of the technical processes. As examples of craftsmanship the prints are all good. There is no defiance of sound tradition, no attempt at mere novelty. One would say that they are sound, enjoyable, and companionable, without being original. Yet there is originality in some. The work of Honoré Broutelle, A. K. Goyder, Stella Langdale, and Karel Toudl shows that the artists have something new to say. Others reflect the work of greater masters. Thomas Todd Blaylock's work is poetic, like Lepère's; Bolton Brown's reminds one of Fantin-Latour; that of J. Knight, of the old English landscapists.

But, after all, we care more for imagination than for originality, therefore we like the work of J. R. K. Duff. To mention more names would be useless, for the reader must discover for himself the work of these contemporaries. For the reviewer it is necessary only to summarize: what stands out conspicuously about the book is its evident desire to inform, to acquaint the reader with what prints are and what print makers are doing. In this it is successful and praiseworthy.

Arthur Edwin Bye

LIONS IN GREEK ART. BY ELEANOR FERGUSON RAMBO. IX, 56 PP. BRYN MAWR DISSERTATION.

The fascinating theme of the portraiture of the lion in Greek art is treated by Miss Rambo in this short, readable dissertation, which should make its personal appeal to every art student. The period covered by the author comprises, however, but the seventh, sixth, and the early part of the fifth centuries; perhaps for this reason she has not attempted to furnish a complete catalogue of the occurrences of the lion *motif*, though it would have been advisable to have considered at least such fourth-century renderings as that of the slain lion at Lampsacus and that in the Craterus group by Lysippus and some of the many Hellenistic representations. Dr. Rambo seems to have begun her task by making a somewhat careful study of the external anatomy of the lion in nature; she likewise displays great industry in her examination of the ancient works of art no less than in her

consultation of such modern authorities as might be expected to cast even a ray of light upon the problem in hand.

After the Introduction—in which the thesis is postulated that the continental Greeks had no first-hand knowledge of the king of beasts, and that all their lion-types in art are borrowed elements—the most noteworthy statements of the Greek writers concerning the lion are brought under review. There follow chapters dealing with: Painted Lions, Sculptured Lions, Lion Types on Coins, The Lion in other Minor Arts. A select bibliography is appended.

Dr. Rambo finds that there is nothing in the writings of the Greeks to warrant a belief in the existence of lions in the country in historical times. Essentially the same conclusion was reached some years ago by Professor A. B. Meyer of Dresden in an important article (twice cited in this book) which has been translated and published in the Annual Report of the Smithsonian Institution, 1905, under the title, *The Antiquity of the Lion in Greece*. On the other hand, it is to be remarked that the Johns Hopkins University possesses a dissertation (unpublished), *Did the Lion Exist in Greece Within Historic Times?* by Dr. A. M. Soho, a native of Greece, who, after drawing from such sources as palæontology, mythology, art, tradition, history, etc., decides that the lion undoubtedly did exist in Greece in historical times. However, it would appear very probable that all specific literary allusions to the presence of the lion in Greece, and even in Macedonia and Thrace, are derived from the far-famed reference of Herodotus (vii, 126) to the attack on Xerxes' camel train—a story which is easily explained away. Even the trustworthy Pausanias, who says (vi, 5, 4) that lions abound in Thrace, is pretty obviously copying from the author of the *Cynegeticus*, who has himself borrowed from the old historian. Miss Rambo has apparently failed to notice the further statement of Pausanias regarding lions' being found also in the vicinity of Mt. Olympus, but this claim, too, is obviously based on a still more slender support. It is doubtful, however, if much value is to be attached to the result of the writer's examination of "lion-names" of persons and localities (pp. 1, 2) or to her *argumentum e silentio* (p. 7) that had the lion been indigenous, we should have had him appearing as the attribute of some purely Hellenic—and not imported—deity. It must be recalled that (1) local lion-names are common enough in parts of the world where the animal has certainly not been found since Palæolithic times, and (2) when we speak of deities who are purely and essentially Hellenic, we are skating on very thin ice indeed.

Miss Rambo finds that this lack of knowledge of the living creature in Greece proper is strongly reflected in the art, where it appears that the lion constitutes an exotic element introduced, presumably, from Asia Minor, where the lion was undoubtedly known to a certain extent even in the classical period. Notwithstanding, "the Ionic artists . . . find their models in previous or contemporary art, and repeat their copy indefinitely" (p. 15). But the author rather weakens her case by insisting on the comparative inefficiency of the Greek artist in depicting the forms of animals in general—even those perfectly familiar to him. She finds fault (p. v) with the bad relative proportion of the horses and riders on the Parthenon frieze, but later (p. viii, n. 2) has occasion to explain the situation correctly on the ground of the artist's desire to preserve isocephalism. Many writers have remarked on the correctness of form in these sculptures, most recently Dr. Charles Singer, a most competent anatomist, who speaks of the horses's heads as "magnificent" (*Greek Biology and Greek Medicine*, p. 8). Reference might also be made to Morin-Jean (*Dessin des Animaux en Grèce*), who is far from displeased with the animal

forms of Greek art. Dr. Helen M. Johnson, in a study of *The Portrayal of the Dog on Greek Vases* (*Class. Weekly*, xii, pp. 209-213), has no difficulty in distinguishing the various canine breeds. Dr. Singer, furthermore, is particularly enthusiastic over the representation of a lioness and young which occurs on a Caeretan hydria in the Louvre (Salle E, no. 298). He finds that the work is done with remarkable fidelity to nature, and even the rather unusual dentition of the animal is accurately portrayed (*op. cit.*, p. 7).

One cannot help feeling that Dr. Rambo has considerably exaggerated the inability of the Greek artist to depict a lion correctly—particularly in respect to ceramic art. After all, has a single vase come down to us, dated earlier than the middle of the fifth century, on which the human form is painted in a manner wholly free from conventionality? It is indeed difficult to discern wherein the conventionalism with which animals and men are treated by the potter differs in kind or degree. Miss Rambo also remarks (p. 33): "The plastic lion in Greek art . . . bends both fore legs close to the ground, as if about to spring on its prey. The latter pose betrays the artist's ignorance of the lion, which does not like the dog spring from the bended fore legs, but crouches flat on the ground, and gathers the whole body for the pounce." While this is doubtless true of the lion's action while he is actually engaged in hunting his prey, that he has the power of springing dog-fashion upon occasion is made very manifest by observing the movements of circus or menagerie lions.

A few sporadic points in the dissertation may be noted. Miss Rambo, quoting Daremberg-Saglio, says (p. vi, n. 2) that harpies are probably of Egyptian origin. This might well have been stated more positively. The harpy, which is identical in form with the "soul-bird" of vase-paintings and sarcophagi, is probably, as Mrs. Strong (*Apotheosis and After Life*, p. 148) maintains, to be regarded as a vehicle of apotheosis, the carrier of the soul to the future world; and representations of it are to be seen too often and too suggestively on Egyptian mummy-cases, to leave any doubt as to its origin.

In the views on coins of the combat of Heracles with the Nemean Lion the hero is almost invariably found on the left, the lion on the right. This arrangement is accounted for by the author (p. 45) on the ground that the *motif* must have been adopted from Chaldean art, and it is suggested that the principle of the lucky left in Chaldean orientation may account for the origin of the situation. But surely one need not wander as far afield as Mesopotamia to look for an explanation if a simple one exists near home. The truth is that where the human face or figure occurs on Greek coins earlier than, say, the Age of Pericles, it is to be found (if not in full-face) almost invariably looking towards the right. Where the lion appears in the scene, he naturally has to face Heracles, whose orthodox position is thus unchanged. Why the right-facing view should thus be preferred may be difficult to explain. Conceivably, it may be concerned with the lucky right-hand motive of Greek orientation. But the figure as carved on the die would face the *left*. May not this simply mean that a right-handed engraver found it easier to represent the figure in this attitude?

The author in another place remarks (p. 47): "Even from Greek gems the lion disappears by the end of the sixth century." This statement appears altogether too sweeping. See, e. g., Furtwängler, *Ant. Gem.*, pl. ix, 49, for a gem showing a beautifully executed lion scene; its date is about 400 B. C. All through the book Miss Rambo appears to overemphasize (as is fashionable today) the so-called apotropaic element.

Most unfortunately, the many merits of the dissertation are offset by a great number of small errors and inconsistencies, not all of which, by any means, can be blamed on the

printer. One notices mistakes in the accenting and even spelling of Greek words on pp. 2, 5, 6, 9, 14, 30, 31. Misspellings of the following English or Anglicized words occur: p. v, *millennium*; p. 2, *Boeotia*; pp. 10, 42, *Peloponnese*; p. 18, *Aeschylus*; p. 21, *principle*; p. 23, *Gilgamesh*; p. 39, *Chaldean*, *winged*, and *Cilicia*; p. 42 *et passim*, *Panticapaeum*. Reference, p. 2, should be to Paus. vii, 6, 6, and not as given (Teubner); and on p. 27, to Mrs. Strong's *Apotheosis*, p. 260, n. 43. On p. 7 we should read *Tomba dell' Orco*, and on p. 22, *entablature* or *frieze* in place of *architrave*. The form of title applied to Fox's *Mythology* in the Bibliography is misleading; there are also mistakes in the names of Roscher's *Lexikon*, Furtwängler's *Antike Gemmen*, the *B. C. H.* and the *Jahreshefte*—all well-known publications. One notices, also, more than a half dozen inconsistencies, and a purist might often find fault with the punctuation.

Notwithstanding the presence in this dissertation of so many of these distressing slips and oversights, we trust that Miss Rambo will continue her researches in this exceedingly interesting field, and will later on be in a position to provide us with a well-illustrated volume devoted to this theme and covering the entire period of Greek art.¹ One might suggest the desirability of a more complete investigation of the works of art portraying the lion which are unmistakably from Asia Minor. Interesting results might also be obtained from an investigation of the ceramic wares of Naucratis and Daphnæ, as we are here on the borderland of the real home of the king of beasts, Africa.

A. D. Fraser

¹Dr. Theodore Leslie Shear, of Princeton University, is planning such a corpus of illustrations of all ancient representations of lions. D. M. R.

NOTES

THIRTEENTH ANNUAL MEETING

The thirteenth annual meeting of the College Art Association of America was held, in conjunction with the meetings of the Archæological Institute of America and the American Philological Association, at Princeton University, Princeton, N. J., on Thursday, Friday, and Saturday, December 27-29, 1923.

PROGRAM

THURSDAY, DECEMBER 27

- 1.00 p. m. Annual Luncheon in Procter Hall, Graduate College
- 3.00 p. m. Informal Gathering in Commons Room, Graduate College
General discussion of European teachers
- 4.30-6.00 p. m. Tea in McCormick Hall
Inspection of the equipment and collections of the University
- 7.15 p. m. Dinner as guests of the University in Procter Hall, Graduate College
Address of Welcome
President JOHN GRIER HIBBEN, *Princeton University*
Illusion and the Ideal
EDWARD KENNETH RAND, *President of the American Philological Association*

FRIDAY, DECEMBER 28

- 9.30 a. m. Meeting in McCosh Hall, Room 2
The Development of Mental Processes Attendant on Artistic Creation
RAYMOND S. STITES, *Brown University*
Study and Appreciation of Fine Value Relations
CLIFFORD H. RIEDELL, *Smith College*
A Study in the Psychology of the Subject of the Madonna and Child
I. The Visual Presentation of the Subject Matter
HERBERT RICHARD CROSS, *New York City*
II. The Psychological Interpretation
L. PIERCE CLARK, M. D., *New York City*
- 2.30 p. m. Joint Meeting with the Archæological Institute of America in McCosh Hall, Room 2
The Story of a Tapestry Woven Dorsal of the Fourteenth Century
R. M. RIEFSTAHL, *New York University*
An Unidentified Painting by Conrad Witz in the Frick Collection
ADELE COULIN WEIBEL, *New York City*
Modena, Bari, and Hades
ROGER SHERMAN LOOMIS, *Columbia University*
The Persistence of Egyptian Traditions in Art and Religion after the Pharaohs
KATE DENNY MCKNIGHT, *Vassar College*
The Chariot at the Gates of the Acropolis
LEICESTER B. HOLLAND, *University of Pennsylvania*
- 4.30-6.00 p. m. Tea in McCormick Hall
Inspection of the equipment and collections of the University

THE COLLEGE ART ASSOCIATION OF AMERICA.

FRIDAY DECEMBER 28—CONCLUDED

- 8.00 p. m. Joint Meeting with the Archæological Institute of America and the American Philological Association in McCosh Hall, Room 10
 The Palace and Beehive Tombs at Mycenæ
 A. J. B. WACE, *Charles Eliot Norton Lecturer of the Institute*
 Latin Exercises from a Greek School Room
 CLIFFORD H. MOORE, *Harvard University*
 Luciano da Laurana and the High Renaissance
 FISKE KIMBALL, *New York University*
 Tridimensional Criticism
 JOHN SHAPLEY, *President of the College Art Association*
 9.30 p. m. Social Gathering in McCormick Hall

SATURDAY, DECEMBER 29

- 9.30 a. m. Meeting in McCosh Hall, Room 2
 Spanish, French, Dutch, and English Paintings in the Lehman Collection
 WALTER W. S. COOK, *Princeton University*
 The Sculpture of the Pediment of the Siphnian Treasury
 CLARENCE KENNEDY, *Smith College*
 The College Art Association and the Colleges
 ALICE V. V. BROWN, *Wellesley College*
 The Sources of Mediæval Style
 C. R. MOREY, *Princeton University*
 Business

MINUTES

Professor Johnny Roosval of the University of Stockholm made the following communication to the members of the College Art Association:

My purpose in coming to America was to establish relations between Swedish and American scholars. I had no idea what great collections were being made and what valuable research was being accomplished here. For it is impossible as long as the American art literature is so imperfectly represented in Sweden to follow the course of American progress. To better the situation I propose that the University of Stockholm, which because of the newly founded Zorn Institute occupies a leading position in art studies in Sweden, undertake exchanges with American institutions. I shall mention some publications which the Zorn Institute can exchange, partly its own publications, partly others made available for the purpose through an annual donation of Fru Emma Zorn, widow of the famous painter, Anders Zorn. In order to put the matter of exchange on a business basis I state the approximate price of the Swedish books. Most of them have a *resumé* in German, English, or French.

Boëthius, Tegelörnerade Gråstenkyrkor, \$3.

" Träarkitektur, \$5.

Curman & Roosval, Sveriges Kyrkor, 16 vols., more to follow, each containing seven churches and having *resumé* in German, \$4 a volume.

Roosval, Dopfunter i Historiska Museet, \$3.

" Riddare S. Göran, \$2.

" Nya S. Görans Studier, \$5.

" Studier i Danmark, \$5.

" Stadshuset: Stockholm, 3 vols., \$30.

Salvén, Bonaden från Skog, \$4.

Etc.

The Zorn Institute will give on request further particulars concerning the above-named books and will furnish information concerning art and art study in Sweden in order to keep in contact with American scholars. It will also gladly exchange photographs.

On approval of the Auditing Committee the following report of the Secretary-Treasurer for the period of 1923 since the last meeting was accepted: Expenditures, 1923, \$2155.10; receipts, 1923, \$1075.76; deficit, 1923, \$1079.34; deficit, 1921-23, \$586.46.

A resolution thanking Princeton University for its hospitality and the members of the local committee for their arrangements in behalf of the Association was voted.

A resolution empowering the President to appoint a Committee on Standards was voted.

The following report of the Committee on Nominations was adopted:

President.....	John Shapley
Vice-President.....	Alfred V. Churchill
Secretary-Treasurer.....	W. Frederick Stohlman
Directors.....	Charles R. Morey Myrtilla Avery